

Electronical Supporting Information (ESI) for:

## Combustion generated nanomaterials: online characterization via an ICP-MS based technique. Part II: resolving power for heterogeneous matrices.

D. Foppiano,<sup>a,c</sup> M. Tarik,<sup>a</sup> E. Gubler Müller<sup>b</sup> and C. Ludwig<sup>a,c</sup>

<sup>a</sup> Bioenergy and Catalysis Laboratory (LBK), Energy and Environment Research Division (ENE), Paul Scherrer Institut (PSI), 5232 Villigen PSI, Switzerland.  
E-mail: debora.foppiano@psi.ch

<sup>b</sup> Laboratory of Biomolecular Research (LBR), Biology and Chemistry Division (BIO), Paul Scherrer Institut (PSI), 5232 Villigen PSI, Switzerland.

<sup>c</sup> Environmental Engineering Institute (IIE), School of Architecture, Civil and Environmental Engineering (ENAC), École polytechnique fédérale de Lausanne (EPFL), CH 1015 Lausanne, Switzerland

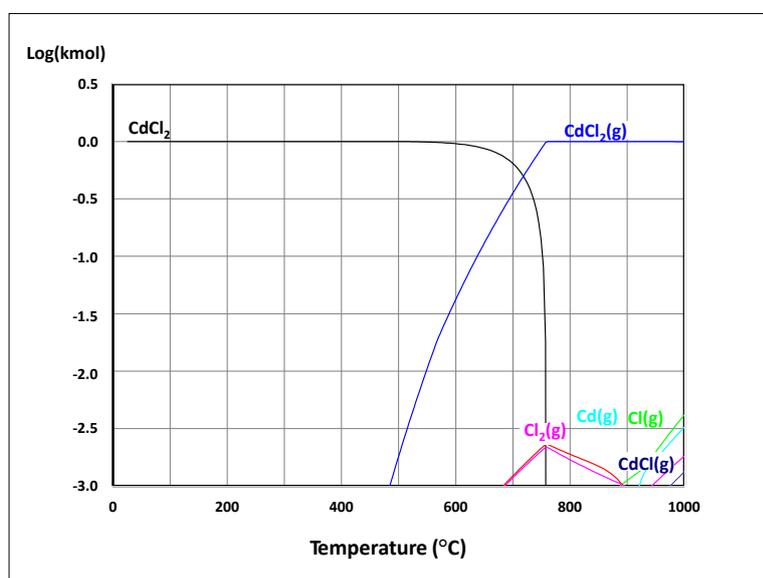


Fig. S1 Thermochemical calculation on CdCl<sub>2</sub> evaporation with HSC software.

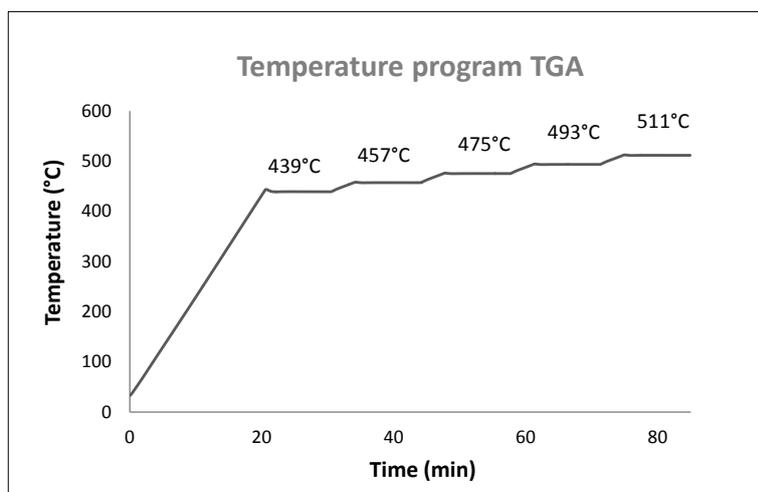
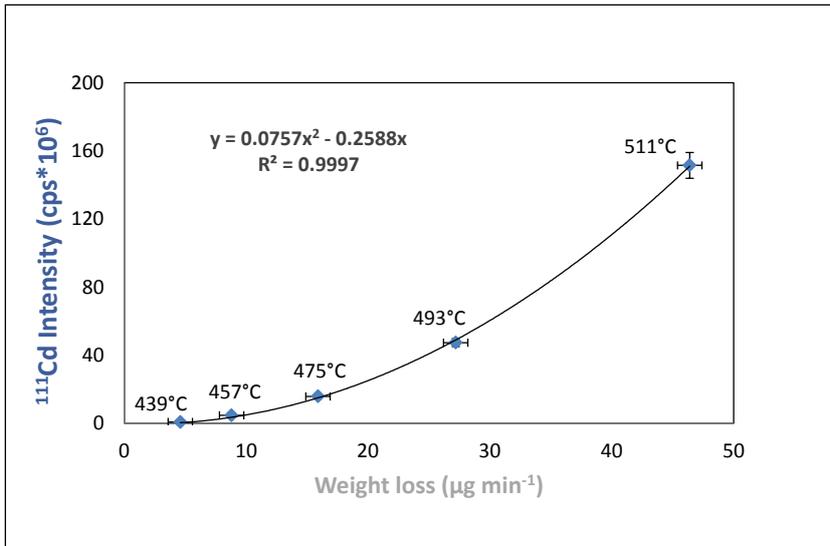
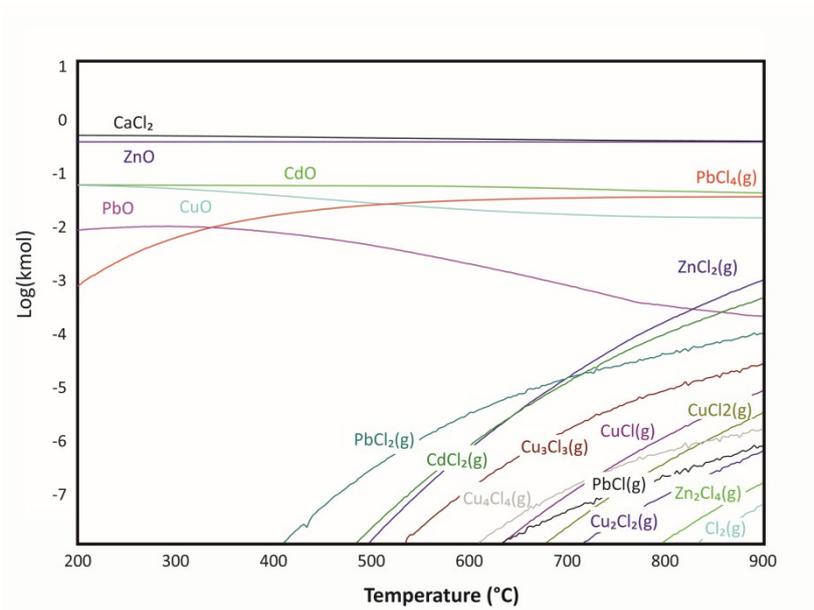


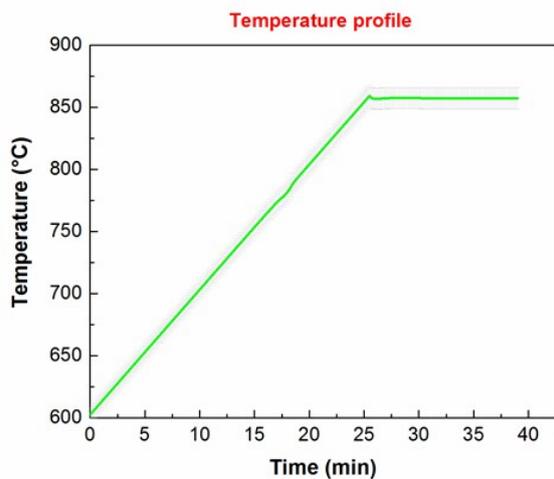
Fig. S2 Temperature program TGA during experiment with CdCl<sub>2</sub> experiments



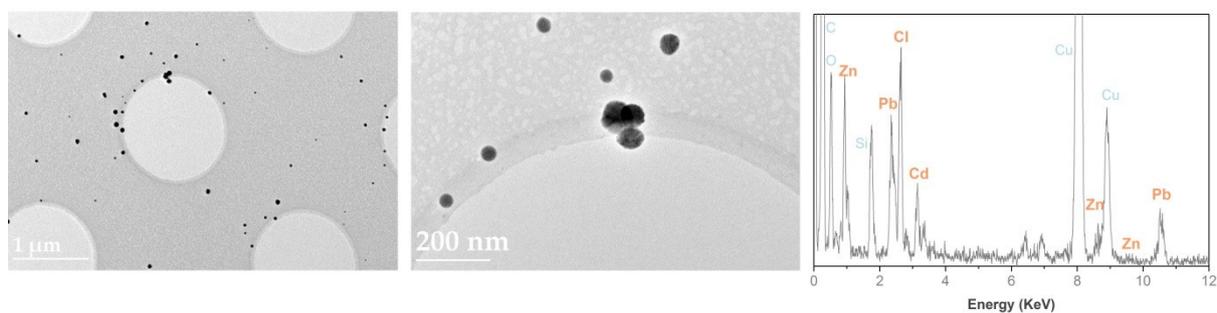
**Fig. S3** CdCl<sub>2</sub> second order calibration curve, used for the determination of Cd concentration in the experiments with PbO, CdO, CuO, ZnO and CaCl<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>. The RSD% associated with each point is ≤5%



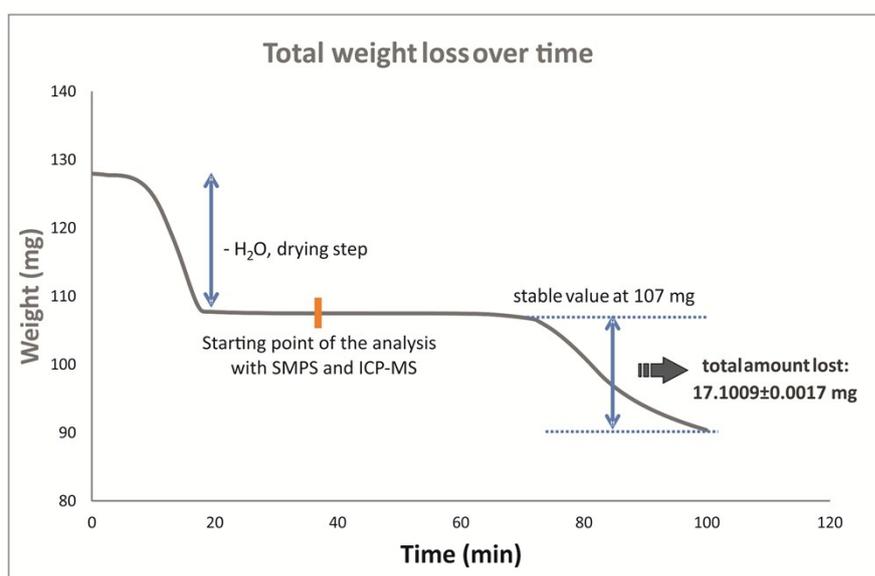
**Fig. S4** Thermochemical calculation on PbO, CdO, CuO and ZnO reactions with CaCl<sub>2</sub> with HSC software. The molar ratio resembles exactly the ones used in our experimental procedure.



**Fig. S5** Temperature program TGA during experiment with PbO, CdO, CuO, ZnO and CaCl<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub> powders



**Fig. S6** TEM micrographs and EDX analysis on size-selected particles generated during experiment with PbO, CdO, CuO, ZnO and CaCl<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub> powders.



**Fig. S7** Total weight loss over time during experiment with PbO, CdO, CuO, ZnO and CaCl<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub> powders. The time scale reported in this plot is not corresponding to the one shown in Fig. 2 and 3 in the manuscript, the measurement with SMPS and ICP-MS was started once stabilization of the sample weight was reached (indicated in the plot with an orange line).